Algebraic Concepts
Lesson 20 Worksheet
Math for Standards

Name _____

Date _____

For each question, you need to find the answer and show your work. Each problem is worth 3 points: one for the correct answer and two for showing your work. For some problems, you may just need to write out how you know you have the correct answer.

1. Mitarnowski deposited $4000 into a bank account. What would his balance be after 7 years at 2.7% interest, compounded annually?

2. Maggie Brann deposited $250 into a savings account 4 years ago. She received 5% interest, compounded quarterly. How much interest did she receive on her account during the 5 years?

3. If you deposit $12000 into an account at 4.5% interest, compounded annually, what will the balance be after 6 years?

4. A baby weighs 8 pounds at birth. If the baby's weight increases by an average of 12% per month during her first year, approximately how much will she weigh on her first birthday? Round your answer to the nearest tenth of a pound.

5. A country's population has increased at an average annual rate of 3.2% for the past 20 years. The current population is approximately 65,324,000. Estimate the population to the nearest thousand 20 years ago.

6. Home heating fuel has increased by an average rate of about 6.4% per year from 1960 to the present. If a gallon of home heating fuel cost $0.15 in 1960, approximately how much would you expect to pay in 2030 if the trend continues?

7. Fuzzy Jeff's mother paid $0.25 for a soft-serve cone from her favorite ice cream shop in 1980. The cost of a cone has been going up about 5.2% per year. What should Jeff expect to have to pay for a cone in 2015?

8. Matt Mitarnowski invests $16000 in a fund that grows at a rate of 9% interest, compounded monthly. What is the value of his investments after 8 years?

Open-Ended Question: Write your answer on separate sheet of paper. Make sure as you answer the open-ended question that you show your work AND explain how you know you are doing the correct work. YOU MUST EXPLAIN WHAT YOU ARE DOING!!!

Maggie Brann wants to buy a used car for $8000 when she finishes school. She has $4500 in savings now in an account that pays 6% interest, compounded quarterly.

A. If Maggie leaves her money in her account for 2 years, will she have enough for the car? If not, how much more would she need to add to the account?

B. How many total years would she need to leave the money in the current account for it to grow to the amount she needs without adding any more money?